Linear Slot Ceiling Diffusers

Factory Cut Supply
- ML-37
- ML-38
- ML-39

Factory Cut Return
- MLR-37
- MLR-38
- MLR-39

Spring Clips
Factory Spacer
Pattern Contoller
Field Spacer
Tube
Factory Spacer
Field Spacer
Factory Spacer
End Fabrication

**Note:** Mounting frame is used only on Frame & Border Types 3, 4, 6, 7A, 7B, 11.

1. Determine size of duct opening. Duct width depends upon model, frame & border type and number of slot. See Duct Dimensions D’ table (Page 13). Duct length is as ordered.

2. First install end frames and field assembled corner pieces in ceiling opening. Then cut side rails to length and install. Use alignment strips furnished with frame parts to connect side rails, corners and end frames to each other.

**Note:** When end borders are not to be used with diffuser, mounting frame ends are not furnished.

3. Use removable gauges furnished with frame parts to ensure proper fit of diffuser into mounting frame. Gauges snap into place between side rails as shown above. If mounting frame is to be plastered into place, use wood blocks to stiffen side rails and maintain correct inside dimensions.
Diffuser Assembly Instructions

1. Assemble diffuser with alignment pins as shown above. End borders or caps, where ordered, are attached at factory.

2. Install diffuser in ceiling. See Hanger Bracket Mounting Instructions (Page 7).
Field Cutting Instructions — Trimming

1. Measure length of diffuser to be cut.

2. Mark ML or MLR for cut. You can cut as much as 3” on each end for a maximum of 6”. Do not cut passed weld spacer.

3. Insert 1/2” dowel into center of each pattern controller. Insert wood blocks or dowels on outside of pattern controller. Wood will support pattern controller when cutting through diffuser.

4. Cut ML or MLR with circular saw. Recommended metal cutting saw blade:
   - 14 x 152 teeth or
   - 10 x 80 teeth
   - 3/32 “ thickness

Note: Apply lubricant while cutting.
Field Cutting Instructions

1. Measure length of diffuser to be cut.

2. Mark MLF or MLRF for field cut. NOTE: If 6” or less is to be cut off, use Trimming instructions shown above. To ensure proper support of pattern controller deflector blades, there should be 7” or less between end of diffuser and next spacer. If after marking their is more than 7” between the field cut mark and the factory spacer, install field spacer.

3. **If field spaces is required:** Line up wholes on side of field spacer with predrilled holes in diffuser Make sure field cut is between factory weld spacer and field spacer.

4. Installed tube through diffuser field spacer. Next install screws in both ends of the tube and tighten.

5. For MLF with pattern controllers, install screw through lower tab hole of field spacer and tighten into threaded channel on blade support bar.

6. For MLF with pattern controllers install additional spring clips on top of blade support bar. Place clip 2” from edge or directly behind spacer if space is in the way. See spring clip for detail, Page 7.

7. Insert 1/2”dowel in center of each controller. Insert wood blocks or dowels on outside of pattern controller. Wood support pattern controller when cutting through diffuser.

8. Cut MLF or MLRF with circular saw. Recommended metal cutting saw blade:
   - 14 x 152 teeth or
   - 10 x 80 teeth
   - 3/32” thickness

**Note:** Apply lubricant while cutting.
Spring Clip — Attaching to Field Cut Diffuser

To attach spring clip to field cut diffuser:

1. Start spring clip on side of blade support bar.
2. Use needle nose pliers or screwdriver to expand spring clip until it hooks over other side of blade support bar.

Hanger Bracket Mounting Instructions

Field Cut Diffuser Only - All Frame & Border Types

1. Drill through top of blade support with 7/32” drill. Use hole in top of field spacer as guide for drill.

**Note:** Blade supports are pre-drilled under factory spacers at at end of diffusers

2. Hole in blade support will be used as clearance hole for inserting screw through face of diffuser, upward into hanger bracket.
Hanger Bracket Mounting Instructions (continued)

Hanger Bracket for Border Types 9A, 9B, 12, 15:

1. Insert #10 screw through face of diffuser, through hole in blade support and into foot of hanger bracket above diffuser.
2. Attach hanger wires (by others).

Hanger Bracket for Border Types 2A, 2B:

1. Insert #10 screw through face of diffuser, through hole in blade support. Start screw in top of hanger bracket above diffuser.
   
   **Note:** See submittal Y-ML for duct dimension D’.
2. Side diffuser up into duct until hanger bracket ends are above hem of duct.
3. Tighten screws to draw diffuser border snug against ceiling.
   
   **Caution:** Do not overtighten.

Hanger Bracket for Frame & Border Types 3, 4, 6, 7A, 7B, 11:

1. Insert #10 screw through face of diffuser, through hole in blade support. Start screw in top of hanger bracket above diffuser.
2. Side diffuser up into mounting frame until hanger bracket ends are above channel on inside of mounting frame.
3. Tighten screws to draw diffuser border snug against ceiling.
Pattern Controller Blade Settings

- Horizontal Left
- Horizontal Right
- Dampered Horizontal Left
- Vertical
- Fully Dampered
- Opposed
- One Way
- Vertical & Horizontal
- Opposed Unequal Flow (One Slot Dampered)
Frame & Border Types, Dimensions

Supply
- Model ML-37 \( S = 5/16" \)
- Model ML-38 \( S = 7/8" \)
- Model ML-39 \( S = 1" \)

Return
- Model MLR-37 \( S = 7/8" \)
- Model MLR-38 \( S = 1" \)
- Model MLR-39 \( S = 1" \)

- Border Type 1A
  - With
    - Flange Border
    - Screw Mounting

- Border Type 1B
  - With
    - Flange Border
    - Duct Mounting

- Border Type 2A
  - Border Type 2B
  - Both with
    - Flange Border
    - Concealed Mounting

Countersunk Screw Holes for #8 SMS (5/16 from Edge)

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<th>O'</th>
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<td>( 1 \frac{3}{8} )</td>
<td>( D' + \frac{1}{8} )</td>
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<tr>
<td>2B</td>
<td>( \frac{7}{8} )</td>
<td>( D' + \frac{1}{4} )</td>
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Frame & Border Types, Dimensions (continued)

- **Frame & Border Type 3**
  - With
  - Flush Border
  - Concealed Mounting

- **Frame & Border Type 4**
  - With
  - Flange Border
  - Concealed Mounting

- **Frame & Border Type 6**
  - With
  - Plaster & Tile Mounting Frame
  - Flush Border
  - Concealed Mounting

- **Frame & Border Type 7A**
- **Frame & Border Type 7B**
  - Both with
  - Plaster & Tile Mounting Frame
  - Flange Border
  - Concealed Mounting

- **Border Type 9A**
- **Border Type 9B**
  - Both with
  - Flange Border
  - Ceiling Hangers

- **Border Type II**
  - With
  - Perimeter Plaster & Tile Mounting Frame
  - Flush Border
  - Concealed Mounting

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<td>⅜</td>
<td>D' + ⅛</td>
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<td>9B</td>
<td>1 ⅝</td>
<td>D' + 1 ⅛</td>
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Frame & Border Types, Dimensions (continued)

- **Border Type 12**
  - With
  - • Spline Border
  - • Ceiling Hangers

- **Border Type 15**
  - With
  - • Flush Border
  - • Ceiling Hangers

- **Border Type 16**
  - With
  - • Curved Flange Border
  - • Concealed Mounting
  - • Equalizing Grid

**End Fabrication**

- **X** End Border
- **Y** Open End
- **Z** End Cap
### Overall Length for Various End Fabrications

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<tr>
<th>Frame and/or Border Type</th>
<th>X-X</th>
<th>X-Y</th>
<th>X-Z</th>
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### Duct Dimensions D’ (Width) for Various Frame & Border Types

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Accessories (Optional)

Optional Miter Corner
- MLF-37 • ½” Slot
- MLF-38 • ½” Slot
- MLF-39 • 1” Slot

Optional Mitered Corner
- MC-37 • ½” Slot
- MC-38 • ½” Slot
- MC-39 • 1” Slot

Check ✓ if provided

<table>
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<tr>
<th>No. of Slots</th>
<th>1A, 1B</th>
<th>2A, 4, 7A</th>
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All dimensions are in inches.

Note:
- MP and MPI are available for all frames and border types.
- Standard nominal length are 2, 3, 4 and 5 feet.
- Request Submittal Y-MP for details.
- Option MP-SP available with maximum spread pattern.

Optional Blank-offs
- BLKS • Cold Rolled Steel • Fit over Neck
- BLKS • Vinyl • Fits in Slot
Notes